

ABSTRACT

In one disclosed embodiment a layer is formed over a transistor gate and a field oxide region. For example, a polycrystalline silicon layer can be deposited over a PFET gate oxide and a silicon dioxide isolation region on the same chip. The layer is then doped over the transistor gate without doping the layer over the field oxide. A photoresist layer can be used as a barrier to implant doping, for example, to block N+ doping over the field oxide region. The entire layer is then doped, for example, with P type dopant after removal of the doping barrier. The second doping results in formation of a high resistivity resistor over the field oxide region, without affecting the transistor gate.

10 Contact regions are then formed of a silicide, for example, for connecting the resistor to other devices.